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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/532,632	04/25/2005	Ernest C Chen	PD-202130	1632

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Directv Group Inc
Re R11 A109
PO Box 956
El Segundo, CA 90245

02/06/2007

EXAMINER

BAYARD, EMMANUEL

ART UNIT	PAPER NUMBER
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2611

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/06/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/532,632

Applicant(s)

CHEN ET AL.

Examiner

Emmanuel Bayard

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-63 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 25-42 is/are allowed.
- 6) ☐ Claim(s) 1-24, 43-45, 47-49, 51-53, 56, 57 and 59-61 is/are rejected.
- 7) ☒ Claim(s) 46, 50, 54, 55, 58, 62 and 63 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 47 and 55 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
2. Claims 47 and 55 recite the limitation "the decoded combined upper layer signal and the lower layer signal" in line 2, respectively. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-24 are rejected under 35 U.S.C. 112, first paragraph, because the best mode contemplated by the inventor has not been disclosed. Evidence of concealment of the best mode is based upon claim, which fails to interrelate essential elements of the invention as necessary to one skilled in the art to practice the invention. The limitations of the claim and their interaction with each other must be considered to ascertain the inventor's contribution to the art. Claims 1, 9 and 17 fail to specify how the step of

"encoding the combined upper layer signal and the lower layer signal" is related or connected or in cooperative relationships with the other steps in the claims.

Claims 1-24 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure, which is not enabling. The step of "encoding the combined upper layer signal and the lower layer signal" as recited in claims 1, 9 and 17, must be interrelated with the other steps in the claim and is critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). The examiner must consider the claim as a whole to determine whether the claim appraises one of ordinary skill in the art of its scope.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 43-44, 51-52 and 59-60 are rejected under 35 U.S.C. 102(e) as being anticipated by Dabak et al U.S. Patent No 7,154,958 B2.

As per claims 43, 51 and 59 Dabak teaches a method of transmitting a coded signal having an upper layer signal and a lower layer signal, comprising the steps of:

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separately and multiplexingly encoding the upper layer (see fig.3 element D1) signal and lower layer signal (see fig.3 element D2) (see fig.3 element 221 and col.6, lines 50-67 and col.7, lines 60-67); a multiplier is the same as the claimed (modulating) (see fig.3 element 241 and col.6, lines 65-67) the separately encoded upper layer signal; a multiplier is the same as the claimed (modulating) (see fig.3 element 242 and col.6, lines 65-67 and col.7, lines 1-15 and col.9, lines 1-5) modulating the separately encoded lower layer signal; transmitting the modulated and separately encoded upper layer signal (see fig.3 element AT1 and col.7, lines 21-40); and transmitting the modulated and separately encoded lower layer signal (see fig.3 element AT2 and col.7, lines 21-40).

As per claims 44, 52 and 60 Dabak teaches wherein the upper layer signal and the lower layer signal are encoded by the same code (see col.7, lines 7-15).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 45 and 53 are rejected under 35 U.S.C. 102(e) as being anticipated by Hammons Jr et al U.S. Pub No 2003/019402 A1.

As per claims 45 and 53 Hammons et al teaches method of decoding a coded input signal having an upper layer modulated signal and a lower layer modulated signal, comprising the steps of: space time demodulator is the as the claimed (demodulating the input signal to produce an encoded upper layer signal) (see fig.1 element 26); space time demodulator is the as the claimed (demodulating the input signal to produce an encoded lower layer signal) (see fig.1 element 26); multiplexingly applying the encoded upper layer signal and the encoded lower layer signal to a signal encoder (see fig.1 element 28).

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 48-49 and 56-57 are rejected under 35 U.S.C. 102(e) as being anticipated by Hammons Jr et al 2004/0146014 A1.

As per claims 48 and 56, Hammons Jr et al teaches a method of decoding a coded input signal having an upper layer signal and a lower layer signal, comprising the steps of: space time demodulator is the as the claimed (demodulating the coded input signal to produce a coded upper layer signal) (see fig.3 element 104); space-time demodulator is the as the claimed (demodulating the coded input signal to produce a

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coded lower layer signal) (see fig.3 element 104). (Note that a space-time demodulator is known in the art as plurality or parallel demodulators. Therefore demodulating the upper and demodulating the lower signal is inherently taught by Hammons); and multiplexingly decoding the coded upper layer signal and the coded second layer signal (see fig.4 element 106).

As per claims 49 and 57, Hammons inherently teaches wherein the step of alternately decoding the coded upper layer signal and the coded second layer signal comprises the step of alternately applying the coded upper layer signal and the coded lower layer signal to a decoder.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claim 61 is rejected under 35 U.S.C. 102(e) as being anticipated by Giallorenzi U.S. Pub No 2002/0051435 A1.

As per claim 61, Giallorenzi et al teaches an apparatus for decoding a coded input signal having an upper layer modulated signal and a lower layer modulated signal, comprising: a first demodulator for demodulating the input signal to produce an encoded upper layer signal (see fig.6 element 34a); a second demodulator for demodulating the

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input signal to produce an encoded lower layer signal (see fig.6 element 34b); a demux is the same as the claimed (multiplexer) (see fig.6 element 33), communicatively coupled to the first demodulator and the second demodulator, the multiplexer for multiplexingly applying the encoded upper layer signal and the encoded lower layer signal to a signal decoder (see fig.2 element 38).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hammons Jr et al U.S. Pub No 2003/019402 A1 in view of Stahle et al U.S. Patent No 6,956,841 B1.

As per claim 47, Hammons et al teaches all the features of the claimed invention except the step of de-interleaving the decoded combined upper layer signal and the lower layer signal.

Stahle et al teaches the step of de-interleaving the decoded combined upper layer signal and the lower layer signal (see fig.3 element 326 and col.6, lines 45-50).

It would have been obvious to one of ordinary skill in the art to implement the teaching of Stahle et al into Hammons as remove any interleaving used in the transmission as taught by Stahle (see col.6, lines 45-50).

Allowable Subject Matter

13. Claims 25-42 are allowed over the prior art of record.
14. Claims 46, 50, 54-55, 58 and 62-63 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
15. The following is a statement of reasons for the indication of allowable subject matter: delaying the input signal; demodulating the delayed input signal to produce a lower layer signal; combining the upper layer signal and the lower layer signal; and decoding the combined upper layer signal and the lower layer signal as recited in claims 25, 31 and 37. Re-encoding and remodulating the upper layer signal; extracting the lower layer signal from the input signal by subtracting the re-encoded and remodulated upper layer signal from the input signal as recited in claims 46, 50, 54-55, 58 and 62-63.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
- El-Gamal et al U.S. Pub No 20020136327 A1 teaches a method and system for utilizing space-time codes.
- Zhang et al U.S. Patent No 6,754,872 B2 teaches a method and apparatus for reducing channel distortion.
- Saunders et al U.S. Patent No 6,049,566 teaches a high frequency signaling with minimum spacecraft hardware.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel Bayard whose telephone number is 571 272 3016. The examiner can normally be reached on Monday-Friday (7:Am-4:30PM) Alternate Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571 272 2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Emmanuel Bayard
Primary Examiner
Art Unit 2611

1/31/07

EMMANUEL BAYARD
PRIMARY EXAMINER

